SCILL- Stem Cell Internships in Laboratory-based Learning

Grant Award Details

SCILL- Stem Cell Internships in Laboratory-based Learning

Grant Type: Bridges II

Grant Number: EDUC2-08394

Investigator:

Name:	Tzvia Abramson
Institution:	San Jose State University
Type:	PI

Award Value: $3,036,802

Status: Active

Grant Application Details

Application Title: SCILL- Stem Cell Internships in Laboratory-based Learning

Public Abstract: The Lead Institution's Stem Cell Internships in Laboratory-based Learning (SCILL) is a consortium of scientists, faculty and administrative leaders from six institutions who have made a commitment to train students at the graduate level for careers in stem cell biology. Graduates from this program will advance and accelerate stem cell therapies, and increase community awareness about scientific and societal issues related to stem cells and regenerative medicine.
The Lead Institution has partnered with five (5) Host Institutions (Host Institution 1, Host Institution 2, Host Institution 3, Host Institution 4 and Host Institution 5) to provide students with the academic and practical laboratory experience that will prepare them for careers in stem cell research and development of novel therapies. More than 60 stem cell researchers in this SCILL consortium are committed to educating and training students for careers in stem cell biology.
The SCILL program is designed to be completed in two years. SCILL students will take graduate laboratory courses in immunology, molecular biology, flow cytometry, and stem cell biology, as well as courses in regulatory affairs, therapy development processes, and clinical trial management. Students will also engage in patient interaction activities in various medical settings and develop a community out-reach plan to share their knowledge and their expertise in stem cell biology and regenerative medicine with their communities. Each SCILL trainee will complete 12 months of full time hands-on research in human stem cells or progenitor cells at one of our research university partners (Host Institution 1 and Host Institution 2) or translational research involving stem cell product development at one of our corporate partners (Host Institution 4 and Host Institution 5) or clinical applications of stem cell science at Host Institution 3. On the successful completion of the SCILL curriculum and internship, students are awarded a master's degree and are prepared for a career in stem cell biology.
The SCILL Program has a solid track record in training stem cell professionals at a graduate level, all from among California residents and representative of the diverse ethnicities of our state. More than 95% of our students have completed the two year program. More than 90% are employed primarily in the state of California and about 50% of those are working in stem cell related fields in academia, in the biotech industry or have continued to higher advanced degrees. The Lead Institution's CIRM Bridges 2.0 proposal has strong institutional support as documented by the addition of two more trainee spots to SCILL. Through funds provided in this grant we will continue to produce outstanding scientists who will contribute to advances in stem cell therapies and promote CIRM's vision of leadership in stem cell biology for the people of California.

Statement of Benefit to California:	The State of California is in urgent need for therapies for a variety of degenerative diseases. Developments in stem cell biology are on the verge of providing such therapies. The process of translating research-based innovations into useful, proven patient therapies is complex, and requires professionals at various levels. In creating the California Institute for Regenerative Medicine (CIRM) the voters in California ascended to a leadership position in developing stem cells for therapeutic applications. Through CIRM funding, the Stem Cell Internships in Laboratory-based Learning Program at The Lead Institution (SCILL) continues to generate well-rounded professionals who will accelerate the development of stem cells therapies. We train California State University students who will provide the engine supporting California's stem cell industry. Students in the program complete a year of stem cell laboratory-based courses followed by a year of full time internship in state of the art academic and biotech industry labs. We partner with premier institutions in the San Francisco Bay Area to train high quality professionals in basic cell and molecular research at one of our research university partners (Host Institution 1 and Host Institution 2), translational research involving stem cell product development at one of our corporate partners (Host Institution 4 and Host Institution 5), or clinical applications of stem cell science at the Clinical Host 3. We also train our students to understand the people in need of stem cell therapies by engaging them in patient care at degenerative disease clinics and institutes for translational medicine. Our students will also reach out to their communities to educate wide audiences about stem cell sources and their pathway to therapeutic applications. Furthermore, the SCILL Program provides young people of California from diverse backgrounds with a university master's degree in science and career opportunities in this expanding California industry. The SCILL Program is now in its 7th year. Sixty students already graduated with a master's degree. They represent the face of California's diverse population. More than 90% of these graduates hold professional positions in the Bay area. More than 50% now work in biotech companies, many on generating stem cell therapies. About 30 % work in academic labs advancing stem cell research. About 15% of SCILL graduates continue to Ph.D. programs or medical school, and will further advance this field in the future. The Lead Institution's CIRM Bridges 2.0 proposal has strong institutional support as demonstrated by the matching funds allocated for two additional trainee positions in SCILL program. With CIRM support, SCILL will continue to provide high level professionals for this industry through a more holistically designed program. This program will build on our strength in scientific training to include a commitment to therapy development and community involvement.